Attachment A

Response to Comments from County Sanitation Districts of Los Angeles County received on October 21, 2004.

(Tentative NPDES Permit for Hyperion Treatment Plant)

Thank you for your comments to the above-referenced WDRs and NPDES permit. The following are the United State Environmental Protection Agency, Region IX (USEPA) and Los Angeles Regional Water Quality Control Board (Regional Board) responses to your comments provided on October 21, 2004:

Comments Regarding Whole Effluent Toxicity Provisions

Comment 1: Acute Toxicity Testing is not Required According to the Ocean Plan

The 2001 Ocean Plan and the draft 2004 Functional Equivalent Document for proposed revision to the Ocean Plan dated August 2004 only require acute testing when the minimum initial dilution (MID) is greater than 1000: 1. The Ocean Plan states that at MIDs between 100:1 and 350:1 chronic testing is required, but acute testing may be required "as necessary for the protection of beneficial uses of ocean waters" (reference pg 13, 2001 Ocean Plan). The Ocean Plan further states that for MIDs less than 100: 1, as is the case for Hyperion outfalls 001 and 002, only chronic testing is required with no provisional language for the Regional Board to impose acute monitoring under any condition. All ocean discharge permits should follow the Ocean Plan requirements and only require acute toxicity testing at very high dilution or at medium dilution (100-350:1) when previous acute testing indicates that there is reasonable potential for acute toxicity. As a result, the Districts request that the requirement for acute toxicity testing be deleted. Deletion of the acute toxicity testing requirement is also consistent with the guidance provided in the Model Monitoring Program (MMP), which the permit states "guided the development on the monitoring program..."

Response: USEPA and the Regional Board disagree with LACSD's interpretation of acute toxicity provisions in the current Ocean Plan and their application to the Hyperion Treatment Plant (HTP) discharge. USEPA and the Regional Board have reviewed the Ocean Plan and applicable NPDES regulations and conclude the following. Ocean Plan provisions require that the discharge of waste from HTP shall not cause a violation of Table B water quality objectives, including the objective for acute toxicity. (See Section II.A of the Ocean Plan.) The Ocean Plan specifies that compliance with the Table B acute toxicity objective shall be determined following completion of initial dilution, at the edge of the acute mixing zone, where Dm _{acute} = 0.1 Dm chronic; minimum testing requirements for acute toxicity are also outlined. (See Section III.C of the Ocean Plan.) In connection, NPDES regulations at 40 CFR 122.44(d)(1)(iv) specify that water quality based effluent limits (WQBELs) controlling toxicity are required if there is reasonable potential for a toxicity criterion to be exceeded. To this end, USEPA and the Regional Board note that the Ocean Plan does not relieve permitting authorities from 40 CFR 122.44(d)(1) requirements to: (1) evaluate the reasonable potential for ocean discharges to exceed the Table B acute toxicity objective and (2) establish WQBELs for toxicity when reasonable potential is demonstrated.

Because the chronic dilution factors (Dm $_{chronic}$) for Outfalls 001 and 002 are 13:1 and 84:1, it follows that the acute dilution factors (Dm $_{acute}$) for Outfalls 001 and 002 are 1.3:1 and 8.4:1,

respectively. While Ocean Plan provisions specifically require chronic toxicity testing at minimum effluent dilutions below 100:1, paragraphs III.C.3.b and c of the Ocean Plan do not prohibit permitting authorities from also requiring acute toxicity testing in such NPDES permits with dilutions in this range. Similarly, in the *Technical Support Document for Water Quality-based Toxics Control* (USEPA, 1991; TSD), USEPA recognizes that at effluent dilutions below 100:1, acute toxicity is less likely to occur "...as the 100:1 dilution level is approached." In contrast, the acute dilution factors for Outfalls 001 and 002 are 1.3:1 and 8.4:1. Consequently, the TSD recommends that a reasonable potential evaluation for acute toxicity also be conducted to determine whether excursions above the acute toxicity criterion are projected at low dilution values. To this end, the TSD notes that for acute toxicity, an interim (i.e., acute endpoint) result – when available in a chronic toxicity test – may be used to conduct this reasonable potential evaluation for acute toxicity. (See TSD Section 3.3.3, p. 58.)

This notwithstanding, acute toxicity requirements for Outfall 001 are no longer specified in the final permit, as described in Response #2. Acute toxicity requirements for effluent discharged through Outfall 002 are unchanged in the final permit based on the reasonable potential evaluation presented in section XIII.B.4.a of the Tentative Permit Fact Sheet. This provision is consistent with Ocean Plan requirements that the discharge of waste from HTP shall not cause a violation of Table B water quality objectives for acute toxicity and 40 CFR 122.44(d)(1) which requires permitting authorities to establish a WQBEL for toxicity when reasonable potential is demonstrated. Furthermore, because numeric limits for certain toxic constituents that did not show reasonable potential have been removed, this acute toxicity limit is a backstop to preventing the discharge of toxic pollutants in toxic amounts. Also, because of the nature of industrial discharges into the Hyperion sewershed, it is possible that other toxic constituents could be present in the effluent, or could have synergistic or additive effects.

Modification: No acute toxicity provisions have been changed in response to this comment.

Comment 2: The Acute Toxicity Limitation Compliance Determination Procedure for Discharge 001 is Flawed and Discouraged by the Promulgated Test Methods

The acute toxicity limitation for discharge 001 of the Hyperion Treatment plant water quality objective is listed as "Pass" (tentative permit, page 32). Examination of the associated footnote (tentative permit, page 37, footnote 19) reveals that a hypothesis test will be used to determine if a statistically significant difference exists between the control survival and survival in 100% effluent. The effluent will "Pass" if there is no statistically significant difference. The footnote also indicates that the use of a hypothesis test is necessary, as opposed to the traditional LC50, because the TUa calculated using equation 2 of the Ocean Plan (page 13) results in a value of 0.69, which is equivalent to an LC50 of 145% effluent and can not be tested. There are numerous problems, both technical and policy related, with this approach to compliance determination which need to be discussed.

If one examines equation 2 of the Ocean Plan, it states that "this equation only applies when Dm (minimum dilution) < 24" and there is no explanation given nor alternative formula offered for calculating a TUa when the Dm less than 24. However, there are presumably two reasons for this lack of guidance. First, using equation 2 when Dm less than 24 will always result in a TUa less than 1.0 making it impossible to measure directly using and LC50. Second, because the Ocean Plan very explicitly excludes acute toxicity testing when Dm less than 100, there is no need for an alternative TUa calculation method (see first comment above). If such permits

are written consistent with the Ocean Plan, no acute toxicity testing would be required for Dm less than 100 and this issue would not exist.

Even if acute toxicity testing was required, the use of hypothesis tests for determining compliance in the NPDES program is strongly discouraged by the EPA (see Comment 5 below). Further, a hypothesis test is not necessary to determine compliance with a TUa less than 1.0. The Ocean Plan gives three separate methods for calculating a TUa (Appendix I, page 23) from acute toxicity tests. If an LC50 cannot be calculated, there is a formula, which uses percent survival in 100% effluent to calculate the TUa. In the case of discharge 001, a TUa limit of 0.69 translates into a percent survival limit of 85% (15% mortality allowed). Much like the acute objective in the Basin Plan (page 3-17), compliance with this limit could be determined by simply measuring survival in 100% directly.

It is interesting to note, however, that this mortality limit is one-half the Basin Plan limit for acute toxicity in a single sample (30% mortality), despite an acute toxicity dilution credit being factored into the limit. This acute limit is completely illogical when compared with the well-established and accepted acute limits with zero dilution in the Basin Plan. Therefore, if an acute limit is imposed in such situations, contrary to Ocean Plan requirements, it certainly should not be more stringent than the zero dilution based acute objective in the Basin Plan. Notwithstanding the Districts preference to remove the aforementioned acute toxicity requirements from the tentative permit and MRP, this could be resolved by setting a single sample limit (maybe 3X the final objective as in the Basin Plan) and retain the Ocean Plan based objective as a monthly average.

Unlike chronic toxicity, the current acute toxicity portion of the WET program in California has been well received by regulators, dischargers, and environmental groups alike. There is no need to change course now, go against EPA recommendations, and begin using hypothesis tests to determine compliance with acute toxicity requirements.

Response: For the reasons previously discussed, USEPA and the Regional Board disagree with LACSD's interpretation of acute toxicity provisions in the current Ocean Plan and their application to the HTP discharge. This notwithstanding, the acute toxicity requirements for Outfall 001 at issue are no longer specified in the final permit for the reasons described, below.

As LACSD is aware, the City of Los Angeles, Bureau of Sanitation has asked the Regional Board and USEPA to reconsider the proposed acute toxicity WQBEL and monitoring requirement at Outfall 001 because this discharge generally lasts for an hour or less and occurs infrequently, only four times each year. Moreover, for this discharge, WQBELs for ammonia and total chlorine residual (both potential sources of toxicity in POTW secondary effluents), chronic toxicity, and many Table B toxic constituents are in place. Because discharge through this outfall is infrequent and of short duration and because low dilution chronic toxicity effluent limits and testing requirements are in place here, USEPA and the Regional Board are deleting the acute toxicity effluent limit and associated routine monitoring requirement for Outfall 001. However, consistent with TSD recommendations described above for low dilution effluent discharges, the following provision has been added to Monitoring and Reporting Program Section VI.E.(Toxicity Monitoring Requirements) of the final permit:

"When a chronic toxicity test method that incorporates a 96-hour acute toxicity endpoint is used to monitor toxicity at the chronic IWC in effluent discharged from Outfall 001, the 96-

hour acute toxicity statistical endpoint shall also be reported as LC50 and TUa along with other chronic toxicity test results required by this permit."

We now turn to LACSD's remaining pertinent comment regarding USEPA recommendations related to WET statistical endpoints and chronic hypothesis testing conducted under this permit. As LACSD is aware. USEPA allows State regulatory agencies the choice of either hypothesis testing or point-estimation techniques for developing permit conditions and determining compliance. While several important drawbacks of the NOEC have been identified, hypothesis testing, per se, with safeguards is approved even by critics of NOECs. (See Fox, J.F. and Denton, D.L., 2002. Whole effluent toxicity, Encyclopedia of Environmetrics, Vol. 4, pp. 2377-2381.) Such safeguards can include: A series of concentrations tested to verify and quantify a concentration-response relationship; power can be increased; the critical "in-stream waste concentration" can be closely bracketed by adjacent concentrations; an MSD can be applied as a test sensitivity criterion. Because the Ocean Plan specifies use of the NOEC for chronic toxicity and because a majority of the safeguards described above have been incorporated into the draft permit, the final permit is issued without change. USEPA has recommended using point estimate procedures in NPDES testing even when NPDES self-monitoring data are required to be determined using hypothesis testing techniques. This permit is consistent with both USEPA recommendations and State water quality standards in that it requires chronic toxicity self-monitoring data to be reported using hypothesis testing techniques, while also requiring reporting of specified point estimates for calculating facility-specific CVs for toxicity. We note that California's long-standing Ocean Plan chronic WET program has been well received by regulators, ocean dischargers and environmental groups, alike, and see no need to change course at this time.

Modification: In response to the permittee's request, the acute toxicity effluent limit and associated routine monitoring requirement for Outfall 001 have been changed, as described. No other permit provisions related to statistical endpoints for WET have been changed in response to this comment.

Comment 3: Test Organisms Used for Acute Toxicity Testing Must be Marine Species According to the Ocean Plan

According to the 2001 Ocean Plan and the draft 2004 Functional Equivalent Document (Appendix III), "Acute toxicity monitoring requirements in permits prepared by the Regional Boards shall (emphasis added) use marine test species instead of freshwater species when measuring compliance". Despite this requirement, the Hyperion draft permit requires the use of freshwater species for measuring the acute toxicity of discharge 001 effluents (tentative monitoring and reporting program page T-28, section E.1.a.). No rationale is provided to explain why this deviation from the Ocean Plan was included in this permit, but it is likely due to the low dilution factor for this discharge (~1.5: 1) and the experimental design issues it presents for testing a freshwater effluent with a marine species.

However, the 40 CFR Part 136 approved acute test method cited in the permit (EPA 821-R-02-012, section 9.5.4) states "If the effluent has low salinity, but the test is to be conducted with a salt water organism, the test solutions may be prepared by adding dry ocean salts or hypersaline brine (emphasis added) to a sufficient quantity of 100% effluent to raise the salinity to the required level, which will depend on the objectives of the test and the policy of the regulatory agency (emphasis added)". Therefore, there is no technical or policy related limitations, which would preclude the use of marine species for any ocean discharge as

required in the Ocean Plan. All ocean discharge permits should be consistent with State Policy and require the use of marine species.

Response: USEPA and the Regional Board have considered all comments raised on this issue and note that this comment is addressed, in part, through revisions to Outfall 001 acute toxicity requirements incorporated into the final permit at the request of the permittee, as described previously. Also, USEPA and the Regional Board have agreed with the City of Los Angeles. Bureau of Sanitation that acute toxicity methods should be used to monitor acute WET; such methods are specified in the Tentative Permit. In accordance with TSD recommendations, the Tentative Permit is flexible, also allowing use of chronic marine test methods with interim endpoints to evaluate acute toxicity. USEPA has specified that because test procedures for measuring toxicity to estuarine and marine organisms of the Pacific Ocean are not listed at 40 CFR 136. permit writers may include - under 40 CFR 122.41(i)(4) and 122.44 (i)(1)(iv) requirements for the use of test procedures that are not specified at part 136, such as the Holmesimysis costata Acute Test and other West Coast WET methods (USEPA, 1995) on a permit-by-permit basis. (See Guidelines Establishing Test Procedures for the Analysis of Pollutants, Whole Effluent Toxicity Test Methods, Final Rule, Federal Register, November 19, 2002, Vol. 67, No. 223, Pages 69951-69972.) Because the permittee has not sought the flexibility described in the Tentative Permit, the second paragraph under Monitoring and Reporting Program Section VI.E.1.a of the Tentative Permit has been deleted and replaced, as follows:

"The presence of acute toxicity shall be estimated using marine test species as specified in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA 821-R-02-012, 2002), with preference for west coast vertebrate and invertebrate species."

Modification: In response to the permittee's request, flexibility language allowing use of interim endpoints in some chronic methods to evaluate acute toxicity at the acute IWC has been deleted. Language has been added to clarify that west coast species are preferred when acute toxicity testing is conducted using EPA's marine acute methods.

Comment 4: Approved Acute Toxicity Test Methods in 40 CFR, Part 136 Include the Test Species Required in the Permit, Reference to Chronic Methods Should be Removed

The Hyperion permit (tentative monitoring and reporting program page T-28, section E. 1 .a.) refers to two different chronic toxicity test procedures manuals (EPA/821/R-02/014 and EPA/600/R-95/136) for performing acute toxicity tests, and one of these methods manuals has not been promulgated (EPA/600/R-95/136). However, the three marine organisms required in the permit for measuring acute toxicity (topsmelt, Mysidopsis bahia, and Menidia beryllina) are all approved for use in the NPDES program in the promulgated EPA acute toxicity test methods manual (EPA/821/R-02/012). The Mysidopsis and Menidia methods are considered "principal" test organisms while topsmelt is listed as an "alternative acute toxicity test species". There are many important differences between acute and chronic test procedures including feeding rates and frequency, test solution renewal frequency, test duration, and test temperatures. Acute and chronic methods were never intended to, nor should they, be used interchangeably. Ocean discharge permits should require the exclusive use of the approved EPA acute toxicity test methods for all three marine test species.

Response: See Response #3 for rational and changes to final permit.

Modification: See Comment #3.

Comment 5: The Permit Should Follow EPA's Recommendations and Specifically Require the Use of Point Estimates for Analyzing Toxicity Test Data

The use of hypothesis testing to analyze chronic toxicity tests is not specifically stated in the permit, but the requirement to evaluate the pMSD limits (tentative monitoring and reporting program page T-30, section 3.e) and the subsequent discussion of five possible compliance outcomes (page T-31, section 3.e.l-5) suggests that hypothesis tests are expected to be used. The problems associated with the use of hypothesis tests for toxicity compliance determination in the NPDES program have been well documented and recognized by EPA. Hypothesis tests result in an inconsistent definition of toxicity between tests and laboratories, statistically invalid results (even following conversion to TUs) for reasonable potential determination and multiple test averaging, and an inherent disincentive to minimize within test variability. When effect based statistics, such as point estimation, are used to express toxicity results, all of these problems are alleviated and only two possible compliance outcomes are possible, pass or fail.

For these reasons, EPA has consistently recommended the use of point estimates (e.g. IC25) rather than hypothesis tests to analyze whole effluent toxicity data since the issuance of the "Technical Support Document for Water Quality-based Toxics Control" (TSD; EPA/505/2-90/001, page 6) in 1991. In the TSD, the EPA discusses the relative merits and limitations of both techniques and concludes, "comparisons of both types of data indicate that an NOEC derived using an IC25 is approximately the analogue of an NOEC derived using hypothesis testing. For the above reasons, if possible, the IC25 is the preferred statistical method for determining the NOEC" (emphasis added). In subsequent method protocols and rule-making, EPA has continued to voice their preference of point estimates for the analysis of toxicity data. For example, in the final rule (Federal Register Vol67, No. 223, Tuesday, November 19, 2002) the EPA confirms that "as previously stated in the method manuals (USEPA, 1993; USEPA 1994a; USEPA 1994b) and the EPA's Technical Support Document (USEPA 1991), EPA recommends the use of point estimation techniques over hypothesis testing approaches for calculating endpoints for effluent toxicity tests under the NPDES Permitting Program" (http://www.epa.gov/fedrgstr/EPA-WATERI2002/November/Day-(emphasis 19/w29072.pdf, pg 69958). Following promulgation of the rule, new method manuals were issued which, again, recommend the use of point estimate procedures rather than hypothesis tests. Specifically, the newest EPA marine chronic toxicity test methods manual discusses the choice of statistical analysis and states "NOTE: For the NPDES Permit Program, the point estimation techniques are the preferred statistical methods in calculating end points for effluent toxicity tests" (http://www.epa.gov/WET/disk1/ctm.pdf, pg 44). The bolded text actually appears in bold in the manual. Identical language and emphasis appears in the newest EPA freshwater chronic toxicity test methods (http://www.epa.gov/WET/disk3/ctf.pdf, pg. 41).

Despite these very strong recommendations from EPA, hypothesis tests are still commonly used by various Regional Boards to determine the NOEC/NOEL in California, and are specifically required to determine compliance with the acute toxicity limit for discharge 001 of the subject tentative permit (see Comment 2 above). The Ocean Plan does not specifically require the use of hypothesis tests to determine the NOEL for chronic toxicity tests, but defines the NOEL as "the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II". The methods listed in Appendix II allow the use of either hypothesis tests OR

point-estimates to measure toxicity. Although the methods listed in Appendix II allow the use of either hypothesis tests OR point-estimates to measure toxicity, the Districts recommend that the Regional Board be consistent with EPA direction and therefore, specifically require the use of point-estimates to measure acute (LC50) and chronic toxicity (IC25) in the tentative permit.

Response: USEPA and the Regional Board have considered all comments raised on this issue and have addressed the specifics of LACSD's comment in Response #2 and in this response. USEPA and the Regional Board disagree with LACSD's assertion that the use of hypothesis testing (i.e., No Observed Effect Concentration; NOEC) to analyze biological endpoint data for chronic toxicity is not specified in the Tentative Permit; such a requirement is found on page 38 of the Tentative Order. We also disagree with LACSD's assertion that the Ocean Plan's "No Observed Effect Level" - the maximum percent effluent that causes "no observable effect" on the test organism, or NOEL - does not require use of hypothesis testing. A cursory review of the literature on this point yields the NOEL definition of "same as NOEC". In contrast, point estimates allow a particular biological response in a specified percent (p) of test organisms (e.g., IC₂₅). We continue to affirm that the chronic toxicity requirements in this permit are consistent with both USEPA recommendations in the WET methods and TSD and State water quality standards in the Ocean Plan, in that the permit requires chronic toxicity self-monitoring data to be reported using hypothesis testing techniques, while also requiring reporting of specified point estimates for calculating facility-specific CVs for toxicity. Again, we note that California's long-standing Ocean Plan chronic WET program using marine test species, critical dilution factors, and statistical endpoints based on hypothesis testing has been well received by regulators, ocean dischargers and environmental groups, alike, and we see no need to change course at this time.

Modification: No WET statistical endpoint changes have been made in response to this comment.

Comment 6: Most Sensitive Species Screening Requirements are Excessive and can be Effectively Reduced

The requirements to perform periodic most sensitive species screens are a common component of toxicity testing programs. However, in the Hyperion permit, a series of three most sensitive species screens conducted in consecutive months is required every 24 months (acute, page T-29; chronic, page T-30) in order to determine if changes in effluent quality have occurred. This requirement can be effectively modified to both evaluate whether effluent quality has changed and reduce the testing burden on the permittee. As has been done in other permits issued by the Board (e.g., the NPDES permits for Districts' Water Reclamation Plants), the requirement should be modified so that if the first most sensitive species screen confirms that the current most sensitive species is still the most sensitive, then the remaining two screens are not required. The exact language in other permits is:

"Re-screening is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites."

Response: USEPA and the Regional Board have considered all comments raised on this issue. USEPA and the Regional Board note that the 1996 EPA Regions 9 and 10 WET guidance document describes recommended 3-species screening procedures similar to those being requested by the City. Consequently, the final permit is revised, as requested:

Modification: The following sections in the Monitoring and Reporting Program have been changed.

For acute toxicity testing, Section IV.E.1.b.(1) is replaced with the following:

Screening - The Discharger shall conduct the first acute toxicity test screening every 24 months for three consecutive months, with the first screening under this Monitoring Program to be conducted in 2005 2004. Re-screening is required every 24 months. The Discharger shall re-screen with a marine vertebrate species and a marine invertebrate species and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrate that the same species is the most sensitive, then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five, suites. Re-screening shall be conducted at a different time of year from the previous screening. Screening tests shall be conducted using a marine vertebrate species and a marine invertebrate species.

For chronic toxicity testing, Section IV.E.2.b.(1) is replaced with the following:

Screening - The Discharger shall conduct the first chronic toxicity test screening every 24 months for three consecutive months, with the first screening under this Monitoring Program to be conducted in 2005. Re-screening is required every 24 months. The Discharger shall re-screen with a marine vertebrate species, a marine invertebrate species, and a marine alga species and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrate that the same species is the most sensitive, then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five, suites. Re-screening shall be conducted at a different time of year from the previous screening. Screening tests shall be conducted using a vertebrate, an invertebrate, and a plant.

Comment 7: Approved Chronic Toxicity Test Methods in 40 CFR, Part 136 Should be Listed as Provisional Test Methods per the Ocean Plan

Many of the West Coast test methods utilize wild-caught organisms for testing which are not available and/or reproductive under certain conditions and seasons. Therefore, the Ocean Plan correctly allows two 40 CFR, part 136 approved chronic test methods (inland silverside and Mysidopsis bahia) to be used when West Coast test organisms are not available (page 34, Table 111-1). The Hyperion permit requires the exclusive use of the West Coast methods under all conditions (page T-29, section 2.a). This section of all ocean discharge permits should either be modified to include the 40 CFR, part 136 approved methods (EPAl821/R-

02/014) as a provisional methods manual or better yet, simply refer to the Ocean Plan for method and species requirements.

Response: USEPA and the Regional Board have considered all comments raised on this issue. The final permit continues to list only the Tier 1 West Coast chronic marine methods manual specified in the Ocean Plan (see Ocean Plan Appendix III, Table III-1). This is because selections of these species are available seasonally such that West Coast species may be tested year round by California's ocean dischargers. Moreover, these species are pertinent to Santa Monica Bay and continue to be preferred over East Coast species and methods.

Modification: No chronic toxicity provisions have been changed in response to this comment.

Comments regarding the Framework for Monitoring

Comment 1: Use of the Model Monitoring Program

The Regional Board states that the recommendations and guidance provided in the Model Monitoring Program for Large Ocean Dischargers (MMP) has guided the development of the monitoring program contained in the tentative permit. The Districts support the use of the MMP guidance as it embodies the consensus among the regulators (state, regional, and federal) and major POTWs in Southern California on how to "...develop consistency among programs, improve the effectiveness of each program in meeting the needs of management, and increase the efficiency with which monitoring is conducted." (Schiff et al., 2002, see pg. 2). In particular, two MMP principles: (1) monitoring should gather data directly related to management questions rather than for the sake of gathering data and, (2) the level of monitoring should be proportional to the level of concern and potential for impact, are important to improving the utility, relevance, and efficiency of POTW monitoring programs.

Response: As noted, the Regional Board and USEPA have used the Model Monitoring Program guidance to develop the monitoring program, with some modifications to accommodate the particular needs of Santa Monica Bay.

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comment 2: The process proposed for Special Studies is inflexible and inefficient

The MMP framework introduces the concept of special studies as a component of POTW monitoring. These studies are intended to be the adaptive component of the program. The MMP is particularly critical of the inflexibility of existing monitoring programs (Schiff et al., 2002, pg. 4). The adaptive aspect of special studies is central to their utility and the MMP envisions that the questions they address arise naturally from the findings of other components (i.e., local or regional) of the monitoring program. The tentative permit correctly recognizes the adaptive nature of these studies stating that they are "... by nature ad hoc and cannot be... anticipated in advance of the five-year permit cycle." However, the permit goes on to stipulate that, nevertheless, special studies be proposed every year of the permit. This annual requirement is not consistent with the intent of the MMP or the nature of special studies. The permit as written would require that "questions" for special studies be developed not in response to monitoring findings, but rather, to suit an artificial time schedule. This is the antithesis of MMP guidance

and an example of the inflexibility that was one of its greatest criticisms of current monitoring program design.

In addition, the requirement for a board hearing in order to implement special studies is an unnecessary burden and constraint on the process. Proposals for scope of work can more efficiently and appropriately be evaluated by Regional Board staff and approved by the EO. This evaluation should not be constrained by an arbitrary schedule, but rather, be responsive to the need for the studies themselves. The MMP is trying to make monitoring more flexible and adaptive. The Districts request that the framework discussion for special studies be revised to reflect the intent of the consensus embodied in the MMP that special studies are adaptive and responsive to findings. Specifically, we suggest the following language replace the second paragraph (in its entirety) of section I.K.3 (pg T-6) of the tentative permit MRP.

"The identification of questions to be addressed and the scope of special studies shall be determined by the discharger in coordination with the Regional Board staff. The City of Los Angeles shall submit to the Regional Board proposals to conduct special studies as specific questions arise. In coordination with Regional Board staff, a detailed scope of work and reporting schedule will be developed. Upon approval by the Executive Officer, the special study shall be implemented."

Response: The intent of section K.3 is to establish an annual planning process to discuss the need for special studies, not necessarily to require a special study each year. In consultation with USEPA and the Regional Board, the City may propose one or more special studies or no special studies for the following year; the City also may propose multi-year special studies, if appropriate. This approach is adaptive and flexible per the MMP guidelines. USEPA and Regional Board staff believe that it is essential to discuss the proposed special studies at a Regional Board hearing to allow public participation and input into the design of such studies, therefore we are retaining the requirement to hold a Board hearing to approve the studies prior to implementation.

Since the SCCWRP Commission's Technical Advisory Group, which includes representatives from the City, USEPA and the Los Angeles Regional Board, has decided to discuss special studies each year at its November quarterly meeting, we are changing the date for annual submittal of the City's proposal from September 30th to December 30th.

Modification: Section I.K.3. of the Monitoring and Reporting Program has been modified as follows:

3. Special studies are focused on refined questions regarding specific effects or development of monitoring techniques and are anticipated to be of short duration and/or small scale, <u>although multiyear studies also may be needed</u>. Questions regarding effluent or receiving water quality, discharge impacts, ocean processes in the area of the discharge, or development of techniques for monitoring the same, arising out of the results of core or regional monitoring, may be pursued through special studies. These studies are by nature ad hoc and cannot be typically anticipated in advance of the five-year permit cycle.

The scope of each special study shall be determined by the Discharger, in coordination with the Regional Board and *USEPA* shall consult annually to determine the need for special studies. Each year, the Discharger shall submit

proposals for *any proposed* special studies to the Regional Board and USEPA by September December 30, for the following year's monitoring effort (July through June). The following year, detailed scopes of work for proposals, including reporting schedules, shall be presented by the Discharger at a Spring Regional Board meeting, to obtain the Regional Board and USEPA approval and to inform the public. Upon approval by the Regional Board and USEPA, the Discharger shall implement its special study or studies.

Comment 3: The inclusion of a requirement to implement the SMBRC Monitoring program is an unjustified and duplicative burden on the discharger

The City of Los Angeles (as well as other dischargers in the region) is a major and active participant in regional monitoring in the Southern California Bight (SCB). This periodic (every 5 years), multi-faceted program of regional-scale studies is focused on characterizing the nature and extent of cumulative impacts within coastal environments (islands, open coast, bays, harbors, and estuaries) throughout the SCB, and includes assessments of conditions within Santa Monica Bay and its adjacent harbors and estuaries. The addition of another "regional scale" monitoring program as a requirement within the NPDES permit is duplicative of these well-established efforts and in conflict with the MMP guidance that "...monitoring should be focused on activities that directly relate to management questions that need to be answered...." and that "...the link between data collection and potential action should be explicit" (Schiff et al., 2002, pg. 4). In both cases, relevance to the specific discharge being monitored is implied.

In addition, the list of elements for which the City of Los Angeles would be held responsible for developing a monitoring workplan (and providing financial support) are either unrelated to their discharge or already a component of their existing programs

- (1) Rocky intertidal Hyperion effluent does not reach shore as recognized in the tentative permit (see pages T-1, T-2, T-3). There is no justification for participation in intertidal monitoring. Also the MMP (Schiff et al., 2002, pg 101) states that POTWs with deep ocean outfalls should not be required to participate in intertidal monitoring.
- (2) Resident fish monitoring Hyperion is already conducting the most comprehensive monitoring of resident fish within the bay itself. This is focused on the only community of fish plausibly affected by their discharge (the demersal fish) and these data are readily available for use in regional assessments.
- (3) Pelagic ecosystem Hyperion is already contributing per the SMBRC design by providing results from the water quality measurements collected during the Central Region Cooperative Water Quality Surveys.
- (4) Wetlands monitoring There is no plausible impact on wetlands form offshore POTW discharges. This is also the conclusion of the MMP (Schiff et al., 2002, pg. 100).
- (5) Hard bottom benthos Hyperion is required by this tentative permit to support an existing regional kelp survey effort, which was explicitly established by the Regional Board as a surrogate for hard bottom community health. For example, it was inserted in the JWPCP MRP as a replacement for a rocky subtidal survey (i.e., hard bottom benthos) the results of which had established to the Regional Board's satisfaction 'that the observed changes taking place in the area are not due to effects of wastewater discharge...' (see RWQCB-LA Notice dated 24 July 2002).
- (6) Bird & mammal monitoring The MMP (Schiff et al., 2002, pp 96-98) points out that local (and perhaps even SCB-scale regional) monitoring of these organisms will be ineffective because of the large spatial extent of their ranges. Management questions pertinent to

- a POTW cannot be addressed in this fashion. The MMP goes on to say POTWs should be minor players and only if such a program is established by those agencies responsible for bird or mammal management. SMBRC and Regional Boards are not agencies with management responsibility in this context.
- (7) Commercial shellfish monitoring The Districts are unaware of any commercial shellfish harvesting within influence of the Hyperion discharge. Also, Hyperion is already regularly monitoring and demonstrating compliance with California Ocean Plan bacteriological standards for shellfish harvesting.
- (8) Stormwater mass emission loading and plume tracking This is not related to the Hyperion discharge.

The Districts also note that the SMBRC has existing State sources of funding that may be used to directly fund their desired monitoring activities. The shifting of implementation and funding responsibilities to dischargers as an NPDES permit requirement is inappropriate. Furthermore, pursuant to CWC Section 13267, the Regional Board must, when requiring investigation of water quality, ensure that the burden, including costs, of the reports placed on the Discharger bears a reasonable relationship to the need for the requirement and the benefits to be obtained from the report. The Regional Board must also provide the Discharger with an explanation of the need for the report and evidence that supports the necessity of the report.

The Districts recommend that the requirement that the City of Los Angeles be responsible for the planning and implementation of the SMBRC monitoring proposals be entirely deleted and replaced with language that requires that, where elements of the City of Los Angeles' discharge-related NPDES monitoring program monitoring are complementary to other regional monitoring efforts, the City cooperate with these other efforts to assure that the maximum use and value of their data is realized.

Response: In 1989, the National Research Council conducted a review of marine environmental monitoring programs in the Southern California Bight and found that \$17 million was spent annually on marine monitoring, yet it still was not possible to provide an integrated assessment of the status of the Southern California coastal marine environment. Most monitoring was associated with NPDES permit requirements and directed towards addressing questions about site-specific sources. Despite providing valuable information, most monitoring in the Bight was restricted to an area covering less than 5% of the Bight, making it difficult to draw conclusions about the Bight as a whole. This limited spatial extent of monitoring also was found to limit the quality of local-scale assessments, since the boundaries of most monitoring programs did not match the spatial and temporal boundaries of the important physical and biological processes in the Bight.

In 1993, the Santa Monica Bay Restoration Project (now the Santa Monica Bay Restoration Commission) developed a framework for a Comprehensive Santa Monica Bay and Watershed Monitoring Program. Monitoring is the primary tool for evaluating the effectiveness of actions taken to restore Santa Monica Bay, including reducing sources of pollution; reducing impacts on humans, marine life and habitats, and the ecosystem as a whole; and restoring, rehabilitating, and protecting habitats, living resources and biodiversity. Despite extensive monitoring of Santa Monica Bay for decades, the existing monitoring system, which is primarily organized around responses to point sources, does not provide sufficient insights into regional, cumulative, subtle, and/or long-term impacts in an integrated, comprehensive, and cost-effective manner. This Comprehensive Monitoring Framework establishes the need for such studies and explains the anticipated benefits.

The Comprehensive Monitoring Framework redefines one of the purposes of monitoring away from individual agency mandates towards a more holistic approach to data collection. The City of Los Angeles and the Country Sanitation Districts of Los Angeles County participated in this effort and we assume that both the City and LACSD are supportive of the Project/Commission's recommendations. To implement this regional monitoring framework, the Project/Commission recommended several changes to existing discharger monitoring programs in Santa Monica Bay. These changes included: 1) reducing monitoring where impacts have been well documented and are trending downward or where discharge quality has been greatly improved; 2) restructuring or increasing monitoring of seafood tissue, the open ocean ecosystem, kelp beds, rocky intertidal communities, resident fish populations, wetlands, and storm water (inland and coastal plumes); and 3) using the savings from scaled-back monitoring efforts to create a regional funding pool to pay for increased monitoring.

USEPA and the Regional Board have recognized these problems and therefore have modified NPDES compliance monitoring programs over the past several years to include regional monitoring program elements. Many major NPDES dischargers, including the City of Los Angeles and the County Sanitation Districts of Los Angeles County, also have recognized the need for regional monitoring and have played a crucial role in the success of the 1994, 1998 and 2003 Southern California Bight Comprehensive Monitoring Programs.

Although the Southern California Bight regional monitoring programs address many of the monitoring priorities identified in the Santa Monica Bay Restoration Project's framework for a comprehensive monitoring program for the bay, several monitoring components of critical concern within Santa Monica Bay are not included (e.g., kelp, rocky intertidal, wetlands, birds, mammals). These components will not be addressed until management goals and objectives have been established, suitable monitoring indicators have been selected, detailed study designs have been outlined, and funding sources have been identified.

Regional Board staff participated in development of the Central Region Kelp Monitoring Program. This effort was led by the Los Angeles County Sanitation Districts and led to an agreement by several major dischargers to fund this important monitoring component of the Santa Monica Bay Restoration Project. Regional Board staff believed that this approach would work well for development of the remaining unaddressed monitoring components, hence the requirement for the City of Los Angeles to establish and lead a Santa Monica Bay Monitoring Consortium to accomplish this task.

However, the City of Los Angeles and Los Angeles County Sanitation Districts have expressed an unwillingness to undertake this task. Therefore, USEPA and the Regional Board have consulted with the Santa Monica Bay Restoration Commission and determined that its Technical Advisory Committee is willing to develop detailed study designs for the various monitoring components needed to complete the comprehensive monitoring program for Santa Monica Bay. Upon completion of this task, USEPA and the Regional Board will develop an implementation plan to fund these new monitoring program components. We anticipate that funding will be provided through a combination of NPDES discharger participation and linkages to non-regulatory monitoring programs by resource agencies, universities and other organizations.

Modification: Section I.L. of the Monitoring and Reporting Program has been modified as follows:

- L. The conceptual framework for the SMBRP Comprehensive Monitoring Program was designed to be implemented in part through modifications to existing receiving water monitoring programs for major NPDES dischargers into coastal ocean waters. Some elements of this monitoring program already have been implemented, for example through establishment of periodic bight-wide regional monitoring surveys (Southern California Bight Pilot Project'94, Bight'98 and Bight'03) and annual kelp bed monitoring. However, other elements of the program have yet to be developed, including:
 - -rocky intertidal monitoring
 - -resident fish monitoring
 - -pelagic ecosystem monitoring
 - -wetlands monitoring
 - -hard bottom benthos monitoring
 - -bird and mammal monitoring
 - -commercial shellfish monitoring
 - -stormwater mass emission loading and plume tracking monitoring.

The City of Los Angeles (Hyperion Treatment Plant) hereby is required to help establish and participate in the Santa Monica Bay Monitoring Consortium as a condition of this permit. The goal of this Monitoring Consortium will be to oversee development and implementation of the regional monitoring surveys required to complete the SMBRP Comprehensive Monitoring Program. The Monitoring Consortium shall be comprised of representatives from coastal and inland dischargers, as well as other interested parties. It is expected that each discharger will contribute only towards implementation of those monitoring components that are applicable to their discharge. The goal is to implement these surveys by the summer of 2005.

The City of Los Angeles shall be responsible for developing a workplan, in conjunction with other consortium participants and interested stakeholders, outlining the monitoring surveys proposed to complete the SMBRP Comprehensive Monitoring Program. This workplan shall be submitted by March 31, 2005, for approval by the Executive Officer. The Monitoring Consortium also shall develop a funding mechanism to implement the recommended monitoring surveys. It is anticipated that funding will be supplied through financial contributions provided by NPDES dischargers. An effort will be made to offset these costs through reductions in existing monitoring requirements, if possible.

The Santa Monica Bay Restoration Commission's Technical Advisory Committee has agreed to develop a detailed workplan outlining the monitoring surveys required to complete implementation of the Comprehensive Monitoring Program framework developed in 1993. This workplan should include formulation of management goals and objectives, identification of suitable monitoring indicators, detailed sampling designs, and cost estimates for each monitoring component. Upon completion of this workplan, the United States Environmental Protection Agency and the Los Angeles Regional Water Quality Control Board will develop an implementation plan to fund this program. It is anticipated that funding will be supplied through a combination of modifications, including redirection of existing effort and/or imposition of new requirements, to the Monitoring and Reporting Programs of the City of Los Angeles' Hyperion Treatment Plant and other NPDES dischargers into Santa Monica Bay and linkages to existing programs performed by other agencies or interested parties.

Comment 4: Bioaccumulation monitoring in fish has not been reduced

The tentative permit identifies major changes to the permit that result from the implementation of the MMP guidance (see MRP Section I.O., pg T-7). Among the changes cited is a reduction in the bioaccumulation monitoring in the program. The Districts note that the overall effort towards bioaccumulation monitoring is not a reduction when all elements proposed (Local Bioaccumulation Trends Survey, Local Seafood Safety Survey, Regional Seafood Safety Survey, Regional Predator Risk Survey) are considered. Instead a considerable increase in effort will be required if all aspects are implemented. The Districts request that the Regional Board correct this statement to accurately represent the level of effort dedicated to bioaccumulation monitoring being required of the City of Los Angeles.

Response: Section I.O. refers to the compliance portion of the receiving water monitoring program. This portion of the bioaccumulation monitoring program has been reduced, although required participation in regional monitoring programs may increase the overall bioaccumulation monitoring effort (however, the level of participation in a Regional Seafood Safety Survey has not yet been determined).

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comment 5: The permit assumes elements that will be contained in future Southern California Bight Regional Monitoring Programs

The Southern California Bight Regional Surveys (Bight Surveys, e.g., SCBPP, Bight'98, Bight'03) are governed by an independent steering committee that develops the study objectives and questions to be addressed and oversees the program's implementation. While some components are basic to the on-going assessment goals of the Bight Survey and can be anticipated elements in the future, others cannot. Among those that can be anticipated are benthic sediment monitoring (biota and chemistry). Other elements are not as certain to be included in the future. The Districts recommend that the permit not anticipate the particulars of the Bight Surveys (e.g., MRP section I.P.1., pg T-8) in advance or, barring that, include explicit language that provides the discharger with an exemption from anticipated elements of regional monitoring that do not in fact materialize.

Response: Section I.P indicates that the City of Los Angeles shall participate in future Bight Surveys at the level of effort provided to past surveys. The monitoring elements (benthic infauna, sediment chemistry, fish communities, fish predator risk) listed in section I.P.1 were intended as examples, rather than a mandated list of programs to be implemented.

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comments Regarding Submittal of Monitoring Reports

Comment 1: The requirement for an annual summary of receiving water monitoring data is both unclear in its purpose and unlikely to be useful.

The tentative permit requires that an annual summary of the receiving water data collected during each survey year be prepared and submitted (see MRP section II.C., pg T-9). Neither the nature of this summary or the purpose it serves is explained. Unlike effluent monitoring, receiving water monitoring is focused on surveys of ecological condition for which data analysis and interpretation is required to extract meaning. An annual summary, consisting (presumably) of data tables, would be largely meaningless and useless to the Regional Board and a waste of time for the discharger. The requirement to produce a "detailed receiving water biennial assessment" (see further in same item) is the logical and only useful reporting of these data. The Districts request that the requirement for an annual summary of receiving water data be deleted.

Response: The annual summary of receiving water monitoring data is intended to provide a brief description of the monitoring data collected during the previous year, particularly important for alternate years when no detailed interpretive report is required from the City. This should provide the Regional Board, USEPA and the public with a reference guide to the previous year's monitoring.

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comment 2: The requirement to follow recommendations of a 301 (h) monitoring guidance document in performing assessments is unnecessary and potentially unwise.

The tentative permit requires (MRP section II.C., page T-9) that the discharger follow the recommendations contained in the 301 (h) monitoring guidance document Design of 301 (h) Monitoring Programs for Municipal Wastewater Discharges to Marine Water (EPA, November 1982; 430/982-0 10) as the analytical approach when performing the biennial assessment of ecological condition. This guidance is inappropriate for use because it is:

- (1) out of date,
- (2) directed at establishing whether a BIP ('balanced indigenous population') exists outside the ZID ('zone of initial dilution'), which is not a regulatory requirement for Hyperion, a secondary treatment facility, and
- (3) unnecessary as there is a well established analytical practice among POTWs within the Regional Board's jurisdiction and the permit itself contains adequate language as to what analyses are required based upon this practice (see various footnotes regarding data analyses to be performed). This citation does not add to that in any useful way and may inadvertently restrict analytical choices in the future.

The Districts recommend that reference to this document be deleted and that the permit contain only general reference to data analysis techniques to be employed. This will allow the discharger to employ any appropriate analytical technique that will strengthen the assessment, including those not contemplated at the time of the permit adoption or the development of 301(h) guidance two decades ago.

Response: The reference to 301(h) guidance is dated and has been deleted.

Modification: The Monitoring and Reporting Program has been modified as follows:

C. An annual summary of the receiving water monitoring data collected during each sampling year (January-December) shall be prepared and submitted so that it is received by the Regional Board and USEPA by August 1 of the following year.

A detailed receiving water monitoring biennial assessment report of the data collected during the two previous calendar sampling years (January-December) shall be prepared and submitted so that it is received by the Regional Board and USEPA by August 1 of every other year. This report shall include an annual data summary and shall also include an in-depth analysis of the biological and chemical data following recommendations in "Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Water" (EPA, November 1982; 430/982-010; pages 74-91) and the Model Monitoring Program guidance document (Schiff, K.C., J.S. Brown and S.B. Weisberg. 2001. Model Monitoring Program for Large Ocean Dischargers in Southern California. SCCWRP Tech. Rep #357. SCCWRP, Westminster, CA. 101 pp.). Data shall be tabulated, summarized, and graphed where appropriate, analyzed, interpreted, and generally presented in such a way as to facilitate ready understanding of its significance. Spatial and temporal trends shall be examined and compared. The relation of physical and chemical parameters to biological parameters shall be evaluated. See, also, Section IV.H. of this Monitoring and Reporting Program. All receiving water monitoring data shall be submitted in accordance with the data submittal formats developed for the Southern California Bight Regional Monitoring Surveys.

The first assessment report shall be due August 1, 2007, and cover the sampling periods of January May-December 2005 and January-December 2006. Subsequent reports shall be due August 1, 2009, and August 1, 2011, to cover sampling periods of January 2007-December 2008 and January 2009-December 2010, respectively.

Comments Regarding Receiving Water Monitoring

Comment 1: Citation of Bight'98 Field Sampling Manual protocols is too restrictive.

The restriction of sampling protocols for offshore water quality, benthic sediment, and fish and invertebrate (trawl) monitoring to those contained in the Bight'98 Field Operations Manual is too restrictive. These manuals are subject to revision at each cycle of regional monitoring. For instance, the cited manual has been supplanted already by the Bight'03 Field Operations Manual. The Districts recommend that the permit reference the "most current version" of the Bight Field Operations Manual, so that changes in technique that take place during the life of the permit (which may extend beyond the nominal five year permit cycle) can be implemented as appropriate.

Response: The reference has been changed to the most current version of the Bight Field Operations Manual.

Modification: Several portions of Receiving Water Monitoring Program (Section VII.) in the Monitoring and Reporting Program have been modified as follows:

- B.2. Sampling Design Fifty-four offshore water quality stations shall be sampled quarterly by a CTD profiler (see Figure 1). Sampling techniques will follow protocols described in the <u>most recent Bight Regional Marine Monitoring Survey Bight'98</u> Field Operations Manual (Southern California Bight 1998 Regional Marine Monitoring Survey Field Operations Manual, Bight'98 Steering Committee, July 1998).
- C.1.b. Sampling Design Forty-six offshore sampling stations (26 fixed stations plus one set of 20 random stations) within Santa Monica Bay shall be sampled annually for benthic monitoring. The benthic stations shall be sampled in July/August for sediments following protocols described in the most recent Bight Regional Marine Monitoring Survey Bight'98 Field Operations Manual. One sample shall be taken at each station for benthic infauna for community analyses^[7] by means of a 0.1 m² (1.1 ft²) modified Van Veen sediment grab sampler.
- D.1.b. Sampling Design Trawling stations shall be sampled semi-annually for demersal fish and epibenthic invertebrates following protocols described in the most recent Bight Regional Marine Monitoring Survey Bight'98 Field Operations Manual.

Comment 2: The Districts recommend inclusion of a role for the Central Region Cooperative Water Quality Survey committee in formulating offshore water quality survey design.

The City of Los Angeles has been a participant in the Central Region Cooperative Water Quality Survey since its inception. This cooperative effort of POTWs in Ventura, Los Angeles, and Orange counties has provided a coordinated survey of water column conditions that is a substantial improvement over that provided by the more limited spatial coverage of earlier permit-required sampling designs. The Districts recommend that the Regional Board encourage the continuance of this effort and provide flexibility to the Central Region Cooperative Water Quality Survey steering committee in making adjustments and changes to the sampling design as needed to improve the utility of the results. Specifically the Districts recommend that the Hyperion permit contain the following:

"The City of Los Angeles shall participate in the Central Region Cooperative Water Quality Survey steering and technical committees. Recommendations for changes in survey design that significantly alter the City of Los Angeles Water Quality Survey design described above shall be submitted to the Executive Officer for approval prior to implementation."

Response: The Monitoring and Reporting Program requires the City to participate in the Central Region Cooperative Water Quality Survey and recognizes the regional nature of this program and the quarterly water quality surveys. As a component of regional monitoring, the City can propose modifications to the Water Quality Survey for approval by the Executive Officer and USEPA.

Modification: No Monitoring and Reporting Program provisions were changed in response to this comment.

Comment 3: Wet-weight biomass estimation is an uninformative and unreliable metric of benthic community structure and should be dropped.

The tentative permit includes the requirement to estimate infaunal biomass as wet weight for each taxonomic group (see MRP footnote 7, pg. T-50). This parameter has been dropped from regional surveys (see pg 20, Recommendation #2 of SCBPP Benthic Report and pg 86, Recommendation #4 of B'98 Benthic Report) and is not recommended in the MMP (Schiff et al., pg 58) as it has proven to be uninformative in open coast habitats within the Bight for the following reasons:

- (1) It provides little additional information beyond that provided by species abundance data.
- (2) It does not provide useful data regarding secondary productivity (implied in the term 'biomass') as it does not account for moisture and inorganic components of the organisms.
- (3) It is subject to substantial measurement error.
- (4) The processing results in some loss of or damage to specimens prior to taxonomic analysis, negatively affecting the quality of the more critical species abundance data derived from the samples.

The Districts requests that the requirement for wet weight biomass be dropped from the Benthic Sediments Monitoring program.

Response: The biomass measurement requirement has been eliminated.

Modification: Footnote [7] of the Monitoring and Reporting Program has been modified as follows:

Footnote [7] Community structure analysis of benthic infauna shall include estimates of wet weight of each taxonomic group (molluses, echinoderms, polychaetes, crustaceans, and all other infauna), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness, classification analyses (i.e., phenetic or cladistic), or other appropriate multivariate statistical techniques approved by the Executive Officer and USEPA, and the Infaunal Trophic Index.

Comment 4: Replicate trawling should not be included in design of Local Demersal Fish and Invertebrate Survey

The tentative permit requires that replicate trawls be conducted at two sites within the grid of sites monitored for local trends in demersal fish and invertebrates (see MRP section V1I.D. I,c., pg. T-44). No rationale for this design is provided. The Districts note that there is little justification in statistical theory for replication at such a low level, which provides negligible power to determine differences between sites. The MMP (Schiff et al., pg 78) endorses replication for local trend monitoring only in cases of known large impacts or where 301(h) demonstration (repeated measures ANOVA) is needed. Neither

case is applicable to the Hyperion discharge. The Regional Board dropped similar duplicate trawling requirements from the Oxnard Treatment Plant permit for these reasons. The Districts recommend that the Local Demersal Fish and Invertebrate Survey design utilize single trawls at each site per survey period.

Response: The duplicate trawling requirement has been eliminated.

Modification: Section VII.D.1.c. of the Monitoring and Reporting Program has been modified as follows:

D.1.c. Survey Sites - Thirteen offshore trawling stations in a combined fixed station/random station array including seven stations from the fixed array (C1, C3, C6, TD1, Z2, Z3, and Z4,) and two sets of three randomly positioned stations shall be sampled in alternate years. Two fixed stations must be replicated (C1 and Z2). Station Z4 and random station positions will be determined following final adoption of the permit (see Survey Sites - Benthic and Trawl Stations table in Benthic Sediments Monitoring section above and Figure 4).

Comment 5: The requirement to monitor two tissues in the Local Bioaccumulation Trend Survey is unnecessary to answering the question addressed by the design.

Monitoring trends in bioaccumulation local to the discharge does not benefit from measures in two tissues. The MMP (Schiff, et al., pg 79) recommends a single tissue, favoring the use of liver as providing the clearest signal, if historical trend data exist. Unless Hyperion has no historical liver data for hornyhead turbot (the stipulated monitoring species), the requirement to also analyze muscle tissue should be dropped. If Hyperion bioaccumulation trends historical data is based on muscle, then liver should be dropped.

Response: Insufficient historical data exists for hornyhead turbot tissue contaminant levels. Therefore, measurement of both muscle and tissue contaminant levels is being required. During the next permitting cycle, it may be possible to reduce the monitoring to a single tissue type.

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comment 6: Analytes to be tracked in the Local Bioaccumulation Trend Survey should be those chemicals for which there is a relationship to the discharge.

The analytes to be monitored in the Local Bioaccumulation Trend Survey includes three metals for which the Regional Board has established there is no reasonable potential of exceeding Ocean Plan objectives. In addition, these metals are not among chemicals that are considered to cause impairment of Santa Monica Bay. Local trend monitoring should focus on those compounds that have a history of bioaccumulation in local fish tissues and which have reasonable potential to exceed Ocean Plan objectives. For this reason, analytes for trend monitoring around the Hyperion discharge should be limited to DDTs and PCBs.

Response: The metal analytes included for monitoring (arsenic, selenium, mercury) are chemicals of concern for public health risk advisories and predator risk assessments and should be monitored. Although there is no reasonable potential for the Hyperion discharge to exceed the Ocean Plan objectives for these three metals, those objectives apply to the water column rather than to bioaccumulation. Monitoring metals concentrations in local fish tissues will provide useful information about long-term trends of these constituents.

Modification: No Monitoring and Reporting Program provisions have been changed in response to this comment.

Comment 7: Analytes in the Local Seafood Safety Survey should be those chemicals that are responsible for the consumption advisories.

The rationale for the Local Seafood Safety Survey design is provided by the questions it is to address: (1) Where seafood consumption advisories exist locally, do tissue concentrations of contaminants continue to exceed the Advisory Tissue Concentration (ATC)?; and (2) What are tissue contaminant trends relative to the ATC in other species not currently subject to local consumption advisories? The Fish Consumption Advisories in Santa Monica Bay are the result of elevated concentrations of DDTs and PCBs in fish tissues of certain species. The inclusion of other chemicals (i.e., As, Se, Hg) for which no local fish consumption advisories exist and have not been found to be elevated in local fish tissues is not necessary to answer the design question and should be dropped from the design

Response: It is true that fish consumption advisories currently only exist for DDTs and PCBs in Santa Monica Bay. However, arsenic, selenium and mercury are chemicals of concern and should be monitored to ensure that levels remain low in local fish tissues. The monitoring objective has been modified to reflect this goal.

Modification: Section VII.E.2.a. of the Monitoring and Reporting Program has been modified as follows:

- 2. Local Seafood Safety Survey
 - a. Surveys shall include sampling within three zones in Santa Monica Bay to answer two questions: 1) "Where seafood consumption advisories exist locally, do tissue concentrations of contaminants continue to exceed the Advisory Tissue Concentration (ATC)?"; and 2) "What are tissue contaminant trends relative to the ATC in other species and for other contaminants not currently subject to local consumption advisories?" The data collected will be used to provide information necessary for the management of local seafood consumption advisories.

Comment 8: Neither the Regional Seafood Safety Survey nor the Regional Predator Risk Survey should be included as specific monitoring elements in this permit.

The inclusion of a requirement that the City of Los Angeles participate in a Regional Seafood Safety Survey is unjustified for two reasons: (1) The Regional Board assumes that a "Regional Steering Committee" (presumably associated with the regional Bight surveys) or OEHHA will step forward and implement a SCB-scale survey of edible tissue contaminant levels in fish at some point during the life of the permit. This is not at all certain to happen. A speculative requirement such as this leaves the Discharger vulnerable in the event that such a survey is not implemented. (2) The City is already required by this permit to participate in a local (but regional) seafood safety survey that (per the SMBRC monitoring design) will cover all species within the entire Santa Monica Bay, Palos Verdes Shelf, and Los Angels Harbor that are currently subjects of consumption advisories, as well as other species that are consumed but not covered by advisories. This covers nearly the entire open coast area of the SCB in which fish advisories currently exist. The stipulated design requires surveys biennially over the course

of the permit. If the speculative regional survey were to materialize, the data from this "local" seafood safety survey would constitute a substantial portion, even most, of the data that would be expected to be collected in such a survey. To require the Discharger to further participate beyond this level, requiring them to collect more data for yet another survey, is duplicative and an inefficient use of monitoring effort. The Districts request that reference to a Regional Seafood Safety Survey be deleted from the permit.

Similarly, the requirement for participation in a Regional Predator Risk survey is speculative and should be dropped from the tentative permit's MRP. A predator risk survey was included as an element of the Coastal Ecology Workplan for the Southern California Bight 1998 Regional Monitoring Program. The City of Los Angeles contributed analytical resources to that effort. However, it is entirely uncertain (even unlikely, in the Districts' view) that a predator risk survey will be repeated in the next Bight regional survey. Regardless, as commented above, the Bight Surveys are governed by an independent steering committee that develops the study objectives and questions to be addressed and oversees the program's implementation. There are few elements of these monitoring programs that are so basic that they can be anticipated to be included in each successive regional survey; predator risk assessment is not one of these elements. The Districts recommend that the permit not anticipate the particulars of the Bight Surveys in advance or, barring that, include explicit language that provides the Discharger with an exemption from anticipated elements of regional monitoring that do not in fact materialize.

Response: The State of California created a Coastal Fish Contamination Program (CFCP) in 1998. The objective of this program was to obtain data to be used by OEHHA for human health assessments of fish species for coastal waters in areas commonly utilized by sport fishermen. After a few years, dedicated funding for this statewide monitoring program disappeared. The CFCP, as well as the State Mussel Watch and Toxic Substances Monitoring Programs, are included within the State's Surface Water Ambient Monitoring Program (SWAMP) and must compete for limited funding resources.

Currently, SWAMP is underfunded and insufficient funding is available to conduct the CFCP on a statewide basis. If such a statewide program is reinstituted in the future, the City of Los Angeles will be required to participate. However, it is likely that participation in the Local Seafood Safety Survey would be adequate to cover most, if not all, of this obligation. Even if the statewide regional survey fails to materialize, the Local Seafood Safety Survey recommendations from the Santa Monica Bay Restoration Project included a broad scale resampling of several species at least once every 10 years; consequently, this element is included as a Regional Seafood Safety Survey monitoring requirement.

The Los Angeles Regional Board and USEPA anticipate that some type of Regional Predator Risk survey will be retained in future Bight Regional Surveys, given that this element was monitored during Bight'98 and Bight'03. Should this type of survey be discontinued, the City may consult with the Regional Board and USEPA to reallocate these resources.

Modification: No monitoring and reporting program provisions were changed in response to this comment.

Comments Regarding Reasonable Potential

Comment 1: Regional Board should utilize same procedures for determining Reasonable Potential as contained in the August 2004 draft version of the Ocean Plan.

The Districts support the inclusion of limits based on Reasonable Potential (RP) procedures as this is consistent with proposed amendments by the State Board to the California Ocean Plan (dated August 2004). The proposed amendments to the Ocean Plan will provide a clear methodology for Regional Boards to use in the determination of when water quality-based effluent limitations are needed. Therefore, the Districts request that the Regional Board be consistent with the State Board direction (as represented in the draft version of the Ocean Plan) in conducting RP analysis as described below.

The statistically-based approach used to determine RP should take into account effluent variability and utilize censored data in a manner suitable for obtaining a realistic characterization of the data set. For example, rather than setting non-detected data at one half of the detection limit when conducting the statistical analyses, the State Board has recommended the use of a specific method (Helsel and Cohn, 1988) as a general approach that appropriately accounts for censored data that can also handle data sets with more than one analytical detection limit.

The State Board has also proposed the use of lognormal distribution methods (consistent with the assumption made by Regional Board staff on the Hyperion permit, Finding 50, page 19), however the State Board has recommended a different confidence interval of 95% for the RP procedures. The Ocean Plan amendments propose the use of the 95% confidence level interval of the 95th percentile of a lognormal distribution rather than the upper 99% confidence level of the 99th percentile used for the Hyperion tentative permit.

Response: USEPA and Regional Board staff evaluated the reasonable potential for Ocean Plan constituents using <u>all</u> effluent data provided by the City from January 1999 to June 2004. Since there is no RPA methodology in the existing and currently valid Ocean Plan, USEPA and Regional Board staff used the time-tested statistical procedure for determining reasonable potential recommended in Section 3.3.2 of *the Technical Support Document for Water Quality-based Toxic Control* (TSD), as described in permit Finding 52. However, the TSD has no detailed guidance regarding how to set conditions and assumptions when conducting RPA. Therefore, consistent with the permit recently issued by USEPA, and considering the application of dilution ratio for the ocean discharge, USEPA and Regional Board staff intentionally choose a conservative approach that implements the following: 1) the use of maximum Method Detection Limit (MDL) in the determination of RP for constituents with 100% non-detected data; 2) the substitution of nondetect with one-half of MDL; 3) the selection of the 99% confidence level of the 99th percentile.

USEPA and Regional Board staff are aware of this Amendment, as well as more recent proposed amendment to the California Ocean Plan that incorporates an RPA process. Until an RPA process is adopted by the State, USEPA's TSD procedures will be followed.

Modification: There is no change warranted in response to this comment.

Comments Regarding Mass Emission Limits, Caps and Benchmarks

Comment 1: Design capacity flows should be basis for mass limitations.

The tentative Hyperion permit includes final effluent mass based limitations, Mass Emission Caps and Mass Emission Benchmarks that are based on different final effluent flows. The current design capacity for the Hyperion plant is 450 MGD. However, the Regional Board did

not use this design flow to determine the previously mentioned parameters but used various flows (i.e., 420 MGD, 347 MGD and 400 MGD) conditions.

The final effluent mass based limitations included in Section I.A. of the tentative permit are based on a flow of 420 MGD, which is the permitted flow in the 1994 NDPES permit. In Finding 57 of page 21 of the tentative permit, the Regional Board indicates that, "although the design flow rate of the treatment plant has increased to 450 MGD, this increase has been accompanied by a significant improvement in the level of effluent treatment necessary to achieve full secondary treatment. As a result, both the quantity of discharged pollutants and the quality of the discharge are expected to remain relatively constant or improve during this permit term consistent with antidegradation policies." There appears to be no attempt made by the Regional Board to quantify whether or not loading will remain constant and there is no apparent consideration for the "highest water quality consistent with maximum benefit to the people of the State" as is stated in Resolution 68-12. Since the increased design flows of the Hyperion plant are related to increased population projected during the next years, the Regional Board should make the determination whether or not increased volume of discharge truly results in degradation.

Response: The Hyperion Treatment Plant discharges to Santa Monica Bay, which is one of the most heavily used recreational areas in California. Recognizing the importance of the Bay as a national resource and considering both State and the federal Antidegradation Policies, we calculated the mass effluent limit based on the previously flow rate of 420 mgd in the existing permit. USEPA and the Regional Board have not limited the permittee's ability to increase mass emission rates during this permit term. Indeed, the Tentative Permit, consistent with the previous permit, allows the permittee to increase its mass emission rate by more than 80 million gallons per day (mgd) (from 340 mgd to 420 mgd) during the coming permit term. USEPA and the Regional Board note that the permittee's own projected end-of-permit flow is approximately 400 mgd. Pursuant to the Tentative Permit, the permittee is allowed to request the modification of mass emission rates based on the current design capacity of 450 mgd, if the permittee conducts an Antidegradation Analysis to justify the request.

Modification: There is no change warranted in response to this comment.

Comment 2: The imposition of Mass Emission Caps for copper, lead, silver and zinc are not warranted.

The Districts request that the Regional Board delete the Mass Emission Caps since copper, lead, silver and zinc, are no longer on the 303(d) list for the Santa Monica Bay as was the case when the previous Hyperion NPDES permit was adopted. If the intent of including these caps was because the discharge could contribute to an impairment, then they should be deleted as these four metals were removed from the 303(d) list in 2002 as no impairment exists. Also the reference made to deterioration of designated beneficial uses in the Santa Monica Bay in Section I.B. of the tentative permit (reference page 39) should be deleted.

Response: As recommended at the Santa Monica Bay Restoration Plan, emission caps for these four metal (copper, lead, silver and zinc) were set at the 1995 loading level. To reflect the 1995 loading level, the calculation should be based on the 1995 average flow and concentration. Although these four metals were removed from the 303(d) list in 2002, the determination in the Santa Monica Bay Restoration Plan has not yet been revised. The statement in Section I.B. only reflects the identification of SMBRP.

Modification: There is no change warranted in response to this comment.

Comment 3: Mass Emission Benchmarks are not warranted and should be removed from the tentative permit.

Finding 62 on page 23 of the tentative permit indicates that in order to "address the uncertainty due to potential increases in toxic pollutant loadings from the Hyperion Treatment Plant discharge to the marine environment during the five-year permit term and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with State and federal antidegradation requirements a the time of permit reissuance, 12-month average mass emission benchmarks have been established for effluent discharged through the 5-mile outfall." These proposed benchmarks are based on a flow-rate of 400 MGD. which is lower than the design rate of 450 MGD and lower than the flow in the 1994 NPDES permit of 420 MGD, which is the basis of the mass based limits included in the tentative permit which supposedly addresses antidegradation. The rationale for using the 400 MGD flow to determine the benchmarks seems inconsistent and is not clearly defined. Although Finding 62 states that these benchmarks are intended to address the uncertainty due to potential increases in toxic loadings, it is not clear why a flow rate of 400 MGD should be used. The Districts are not convinced that there is a tangible benefit imposing benchmark provisions. We suspect that this effort will not yield useful or meaningful information. For example, Table 5 of the Southern California Water Research Project Biennial Report 2001-2002 provides mass emission data from the large POTWs, that shows statically minor variations in POTW mass emission loads over a period of years. Specifically, copper varies slightly over the past 13 years: in 1991 the combined POTW copper load was 47 metric tons (mt), in 1996 it was 49 mt, in 1997 it was 59 mt, 1998 55 mt, 1999 it was 46 mt and in 2000 it was 51 mt. If a party had reviewed these data in 1998 to determine if degradation had occurred in the previous years, they conclude that degradation was occurring since the mass loadings seem to be increasing. However, reviewing the data from subsequent years show a drop in copper loadings. Thus, an initiation of a costly and time-consuming antidegradation analysis could easily be made in error as a result of observing what is believed to be in increasing trend in mass emissions when it is really within the statistically variability of the discharge data.

Furthermore, 40CFR Section 125.122(b) clearly states: "Discharges in compliance with section 301 (g), 301(h), or 316(a) variance requirements or state water quality standards shall be presumed not to cause unreasonable degradation of the marine environment, for any specific pollutants or conditions specified in the variance or standard." The Districts believe that the City has already demonstrated that no unreasonable degradation of the marine environment is occurring as a result of their discharge based on their May 29, 2003 CWA Section 403 report. This is noted in Finding No. 23 of the tentative permit. Consequently, Finding No. 23 provides a basis as to why mass emission benchmarks are not necessary.

Notwithstanding the Districts belief that the mass emission benchmarks are unnecessary, the benchmarks appear to be duplicative of the purpose identified for the inclusion of performance goals, which will result in the monitoring and trending of constituents of concern. Consequently, we request that these benchmarks be deleted in their entirety.

Response: LACSD believes that mass emission benchmarks proposed in the Tentative Permit are duplicative of performance goals and unnecessary. USEPA and the Regional Board disagree. The Tentative Permit proposes both concentration-based and mass-based numerical

performance values for Ocean Plan Table B toxic pollutants in the HTP discharge. This two pronged approach is not unique. NPDES effluents are generally monitored, evaluated and restricted using both concentration and mass. Moreover, in the context of water quality based permitting, it has long been understood that concentration- and mass-based requirements are complementary, focusing on the control of water column toxicity and pollutant loadings into the receiving water system.

The proposed mass emission benchmarks were developed using concentration-based effluent performance goals calculated from 1999 through 2004 effluent data and the permittee's projected end-of-permit effluent flow of 400 mgd, consistent with the approach used in other federal permits issued to Southern California Bight dischargers. In these permits, benchmarks are historically expressed as an annual average, in metric tons. At minimum, an exceedance of these projected end-of-permit threshold values will trigger the need for an antidegradation analysis at the time of permit reissuance.

These performance values are not duplicative. As previously explained in the Tentative Permit fact sheet and findings, concentration-based performance goals focus on signaling changes in pollutant concentrations in the HTP effluent over short timeframes (e.g., months), with more immediate follow-up actions, while mass-based benchmarks focus on changes in pollutant loadings from HTP over a longer time frame (i.e., the end of the five year permit term at the projected end-of-permit flow of 400 mgd). An excursion above such value would trigger a closer review of whether or not a more detailed antidegradation review was needed. Such reviews do not need to expensive and time-consuming. In connection, we do not believe that the aggregate POTW copper loadings example raised by LACSD is pertinent here. Rather, we expect that the permittee will be evaluating trends in effluent pollutant concentrations and effluent flows at HTP during the coming permit term, and that under State and federal antidegradation policies, an antidegradation review would need to be performed if the permittee were to request increases in mass emission rates.

Modification: There is no change warranted in response to this comment.

Comments on Performance Goals

Comment 1: Performance Goals should be established at levels accurately reflecting past performance.

The tentative Hyperion permit includes final effluent performance goals that are intended to maintain existing treatment levels and effluent quality and support state and federal antidegradation policies. Although the Districts support the use of performance goals, we do not support the rationale provided by the Regional Board for their use. We do not believe that performance goals are intended to support state and federal antidegradation policies as performance goals are non-regulatory. The Districts believe that the imposition of performance goals in permits is valuable as a mechanism to ensure Dischargers are evaluating data on a month-to-month basis for changes in effluent quality characteristics (e.g., trends). This approach ensures that trends in constituents are identified early and subsequently investigated by the Discharger in a timely manner. Since these goals are performance based, it is appropriate to use a higher confidence interval than the 95th percentile. In this case, it may be more appropriate to use the 99th percentile of the 99% confidence interval since a lower confidence interval has a higher probability of exceedances due to normal statistical variability and not necessarily a change in performance. Setting performance goals on lower confidence

levels and percentiles will result in the Discharger conducting unnecessary investigations. Therefore, the Districts recommend that the Regional Board revise the performance goals in the tentative permit to reflect the greater of either the 99.87% confidence interval (consistent with the S WRCB's Tosco Decision, WQO 200 1-06) or the maximum observed concentrations of the evaluated data set. Notwithstanding our request, if the performance goals remain unchanged, in order not overly burden the Discharger with "no-value added work," we strongly recommend that the requirement to submit a written report when exceeding a performance goal in two successive monitoring periods be revised to three successive monitoring periods as this would be a better representation of a change in performance rather than just statistical variability.

Response: As stated in Finding 61 of the Tentative Permit "The performance goals are based upon the actual performance of the Hyperion Treatment Plant and are specified only as an indication of the treatment efficiency of the facility. Performance goals are intended to minimize pollutant loading (primarily for toxics) and, while maintaining the incentive for future voluntary improvement of water quality whenever feasible, without the imposition of more stringent limits based on improved performance." Considering the Ocean Plan's allowance for a dilution ratio, the large scale of HTP, and the possible change of effluent quality due to the acceptance of urban runoff diversion, PGs are conservatively set at 95th percentile of performance data. USEPA and the Regional Board are aware of the low values of PGs and revise the provision to require submitting a written report when the exceedance of PG persists in three successive monitoring periods.

Comments on Tentative Permit Pretreatment Requirements

Comment 1: Request revision of Requirement III.D of the tentative permit.

Requirement III.D. on page 43 of the tentative permit states that, "The Discharger shall ensure that all domestic users subject to the federal categorical standards achieve compliance no later than the date specified in those requirements or in the case of a new nondomestic user, upon commencement of the discharge." The Districts request that the reference to "domestic users" be revised to "nondomestic" users since the reference to domestic users for this requirement is not appropriate as it is nondomestic users that are subject to federal categorical standards.

Response: USEPA and the Regional Board agree to the change.

Modification: Requirement III.D. has been modified as follows:

D. ...The Discharger shall ensure that all <u>domestic nondomestic</u> users subject to the federal categorical standards achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

Comment on Attachment P, Pretreatment Reporting Requirements

Comment 1: Request revision to Attachment P, Pretreatment Reporting Requirements

The following sentence in the first paragraph of Requirement A.I on page P-1 should be revised as follows since the sludge from the treatment facility may include both primary and secondary sludge.

"The Discharger is required to monitor pollutants in the influent and the effluent of the POTW(s), and in the sludge. from the secondary treatment process."

Response: USEPA and the Regional Board disagree with the Districts. The Discharger can specify in the monitoring reports the origin and composition of the sludge sample if the sludge in not solely from the secondary treatment process.

Modification: There is no change warranted in response to this comment.